OKC-0711

8 July 1960

Dear Dick:

PROGRESS REPORT #10

On 24 June, we had the suppliers' meeting here in Burbank, so that I know you and your people are well up-to-date on our progress and problems. Since that time, I believe we have solved our titanium problem by changing our method of cleaning parts and by going to higher temperatures for hot forming. This system of processing will be in effect Monday, using jury-rigged tanks. We will be able to take care of parts that we have in the back log and go forward as fast as the material problem will allow us to. As you know, we are substantially behind in our receipt of large titanium sections, from the material vendors. Since our 24 June meeting, we have had both [redacted] and Titanium Metals Corporation technical people, and [redacted] of TMC, here to discuss our problems. I think we will soon be flooded with thin sheet stock, but the deliveries of heavy titanium sections are going to be slow. I do not know the net results on the schedule, but, as we discussed, we will not change any flight date, in the hope that we will find some method of making up the time lost, even though it is extremely critical and probably of a doubtful nature. I am holding daily meetings with our shop personnel, to find ways and means to make good our basic schedule.

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In terms of drawing releases, we are completely on schedule and in good shape. Our cost and commitments are below the expected line because of our inability to put people to work without material. I am convinced that both metal companies are doing their best to get us the materials, but they are having high rejections in the mills and are having to learn as they go along. Monday I am sending a man to TMC to stay there as long as he can do any good and to make sure that the people in the factory are reflecting management's promises to us to get the material out here.

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Our nacelle tests to reduce engine bleed have been confused by the fact that one of the four motors in the Ames wind tunnel was burned out and we cannot represent the full scale Reynolds number, as we did initially. It makes it hard to compare the present results with those originally obtained. We have found means of improving the nacelle cooling and of reducing the air rejected overboard, and have come about half way to a solution of our problem.

Our initial tests on the Ames flight simulator have been very successful and we have learned important things to do to improve longitudinal stability and control. Minneapolis-Honeywell are working closely with us on this and I am going up Monday to fly the thing myself. Unfortunately, the simulator, as originally configured, was not able to represent the complex problem we wished to put in it. It took a great deal of development on the part of NASA and ourselves to make it perform properly. It is now doing so well that our pilot has requested the use of the simulator again prior to the first flights, as a training element. Our stability augmentation system works well, but it appears to be desirable to add a Mach number input during our least favorable conditions, which occur, incidentally, during refueling. We have already discussed this with Minneapolis-Honeywell and will probably want to undertake the development of this unit.

We are in the process of placing orders for three starter units with

25X1 [redacted] There is no starter built for the J58 engine, and it

is much simpler to use a direct spline drive from a ground cart than to take on an extremely expensive starter development and carry the weight of a starter in flight. [redacted] proposal has been approved by P&W, as they use a similar device for starting the engine on the stand.

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Sincerely,

Kelly

cc: E. K.
J. P.